

Business Data Communications Infrastructure, Networking, and Security, 7<sup>th</sup> Edition, by William Stallings and Tom Case

## **CHAPTER 2: BUSINESS INFORMATION**

### **TRUE OR FALSE**

- |   |   |  |
|---|---|--|
| T | F | 1. Today, all networked information is sent using digital formats.   |
| T | F | 2. A single bit of information represents two states or values.  |
| T | F | 3. The terms byte and octet describe the same amount of information.   |
| T | F | 4. Voice communication can only be done using an analog signal.  |
| T | F | 5. PBX and Centrex systems provide similar functionality from the users point-of-view.   |
| T | F | 6. Services transmitting video information use a series of vector images to represent moving images.                             |
| T | F | 7. System response time and system cost are closely related to each other.   |
| T | F | 8. Response time is extremely important when implementing email systems.   |
| T | F | 9. When transmitting video information, compression ratios can range as high as 100:1 with little loss of perceived quality.     |
| T | F | 10. Interlacing is a method of reducing the bandwidth requirements for video transmissions.                                      |
| T | F | 11. When using analog communications, channel capacity is measured in hertz (Hz) where 1 Hz equals 1000 oscillations per second. |
| T | F | 12. The United States national version of IRA is referred to as the American Standard Code for Information Interchange (ASCII).  |
| T | F | 13. Common examples of data include text and numerical information.  |
| T | F | 14. Raster graphics involves the use of binary codes to represent object type, size, and orientation.                            |
| T | F | 15. The Joint Photographic Experts Group (JPEG) is a collaborative standards-making effort between ISO and ITU-T.                |

## MULTIPLE CHOICE

1. Which of the following represents a digital form of information?
  - A. a gas gauge
  - B. a fax transmission
  - C. a watch that displays time as HH:MM
  - D. a page filled with English prose
2. Which of the following represents the most basic unit of digital information?
  - A. byte
  - B. nibble
  - C. pixel
  - D. bit
3. Standard voice telephone lines, such as those found in residences, limit bandwidth to:
  - A. 300 Hz
  - B. 3,400 Hz
  - C. 20,000 Hz
  - D. 1,410,000 Hz
4. A stereo compact disc typically requires the bandwidth for each channel to be:
  - A. 300 Hz
  - B. 3,400 Hz
  - C. 8,000 Hz
  - D. 20,000 Hz
5. When using data communications with 8-bit codes, the number of alphabetic symbols
  - A. must be exactly 256
  - B. must be exactly 512
  - C. can be greater than 1024 bytes
  - D. must be less than 256
6. The time interval between when a user presses a key and when the result of that action arrives at his or her workstation is called the:
  - A. response time
  - B. turn-around time
  - C. think time
  - D. delay time

7. In digital systems, the information rate and the capacity of a digital channel are measured in:
- A. mhz
  - B. dps
  - C. bps
  - D. ghz
8. Analog information sources include:
- A. sounds
  - B. music
  - C. video
  - D. all of the above
9. Historically, the most commonly used text code is the \_\_\_\_\_, in which each character in this code is represented by a unique 7-bit pattern.
- A. UTF-8
  - B. IRA
  - C. Morse code
  - D. none of the above
10. The number of different characters that can be represented in the International Reference Alphabet text code is:
- A. 512
  - B. 256
  - C. 128
  - D. 64
11. \_\_\_\_\_ is capable of representing symbols and characters used in all the major languages spoken around the world.
- A. UTF-8
  - B. ASCII
  - C. IRA
  - D. UCST
12. A \_\_\_\_\_ is the smallest single component of a digital image.
- A. RGB
  - B. megapixel
  - C. pixel
  - D. none of the above

13. \_\_\_\_\_ images are the most common type of image being transmitted over today's enterprise networks.
- A. Color                                      B. Black and white
- C. Pixilated                                      D. Grayscale
14. The most widely used format for raster-scan images is referred to as \_\_\_\_\_.
- A. TIFF                                      B. JPEG
- C. PNG                                      D. PDF
15. \_\_\_\_\_ screens use thin sandwiches of glass containing a liquid-crystal material to display images.
- A. PDF                                      B. LCD
- C. CRT                                      D. all of the above

### SHORT ANSWER

1. A \_\_\_\_\_ system uses a sequence of discrete, discontinuous values or symbols to represent information.
2. Nondigital \_\_\_\_\_ systems use a continuous range of values to represent Information.
3. With \_\_\_\_\_ compression receivers can reproduce an exact digital duplicate of the original audio stream transmitted by the sender by expanding/decompressing the file that is received.
4. When \_\_\_\_\_ compression is used, irreversible changes are made to the original file that diminish the quality of the original audio stream when the receiver decompresses the file.
5. A \_\_\_\_\_ is an on-premise telephone switch, owned or leased by an organization that interconnects the telephones at that location and provides outside access to the public telephone systems and other voice services.
6. \_\_\_\_\_ files contain very little formatting and do not support formatting such as boldface, italics, or underline.

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7. \_\_\_\_\_ consists of information that can be represented by a finite alphabet of symbols, such as the numbers 0 through 9 or the symbols represented on a computer keyboard.
8. Some of the International Reference Alphabet text code patterns represent invisible, nonprintable characters called \_\_\_\_\_.
9. The \_\_\_\_\_ (IRA) character set is the most common format for English language text files.
10. \_\_\_\_\_ is a 16-bit code that is backward compatible with IRA/ASCII.
11. The \_\_\_\_\_ service supports the communication of individual pictures, charts, or drawings.
12. A representation of images that uses straight and curved line segments is called \_\_\_\_\_.
13. A representation of images that uses an array of pixels is called \_\_\_\_\_.
14. \_\_\_\_\_ is a page-description language that is built into many desktop printers and virtually all high-end printing systems.
15. \_\_\_\_\_ is a subjective measure of the user's perception of the overall value of the network application or service.